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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/592,575	06/12/2000	Atsushi Makino	Q59679	4629

7590 06/21/2004

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EXAMINER

FAULK, DEVONA E

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 06/21/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/592,575

Applicant(s)

MAKINO, ATSUSHI

Examiner

Devona E. Faulk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-4 is/are allowed.
- 6) ☒ Claim(s) 1 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.
2. The indicated allowability of claim 5 is withdrawn in view of the newly discovered reference(s) to Nagamitsu et al. (U.S. Patent 5,467,401) and Orduna-Bustamante et al. (U.S. Patent 5,862,227). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Orduna-Bustamante et al. (U.S. Patent 5,862,227) in view of Nagamitsu et al. (U.S. Patent 5,467,401).
5. Regarding **claims 1 and 5**, Orduna-Bustamante discloses a sound reproducing system including a sound field that includes a listener, a sound field that includes a listener and a front (front of listener) left and right speaker (Figure 4, Figure 16). The sound reproducing system includes HRTF filters represented by transfer functions $C_{11}(z)$, $C_{12}(z)$, $C_{21}(z)$, and $C_{22}(z)$ and crosstalk compensation processing (correction circuit) that can makes use of a matrix of inverse filters ($H_{x11}(z)$, $H_{x12}(z)$, $H_{x21}(z)$, and $H_{x22}(z)$) (column 5, lines 31-42). Although, Orduna-

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Bustamante teaches on the above name elements he fails to disclose the transfer functions featured by sound field characteristics disposed in an anechoic room as a model as claimed. However, the concept of transfer functions featured by sound field characteristics disposed in an anechoic room as a model as claimed was well known in the art as taught by Nagamitsu. Nagamitsu discloses a sound environment simulator that can enable a listener to experience simulation of sound environment of a space selected as model environment without constructing the model space (column 2, lines 51-55). He further teaches of transfer functions corresponding to location of dry source, a dry source being the sound recorded in an anechoic room) (column 3, lines 45-55; column 8, lines 48-65). With regards to claim 5, Nagamitsu further teaches of a storing means (23) for storing correction transfer functions corresponding to a plurality of spatial regions and a position detecting means (31) for specifying a hearing position of a listener as claimed (column 3, lines 45-column 9, line 10). Modifying Orduna-Bustamante's system by using Nagamitsu's concept of computing transfer functions reads on the claimed matter. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to modify as stated above for the benefit of creating and reproducing a more realistic sound field by means of a virtual reality equipment (column 3, lines 56-63).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 703-305-4359. The examiner can normally be reached on 8 am - 5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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XU MEI
PRIMARY EXAMINER